

REMARKS

Upon entry of the foregoing amendment, claims 8-37 will remain pending in the application.

Support for the amendments made to claims 8 and 10 can be found at page 6, lines 3-5 of the specification. Support for the amendment to claim 9 occurs at page 4, lines 16-17. The amendments to claims 15-18 simply put the claims in a proper format, by now properly beginning each claim with an "A" instead of "The".

Support for newly added claims 23-25 can be found at page 6, lines 11-13, page 4, lines 16-17 and in original claims 8-10. Support for newly added claims 26-37 can be found in claims 11-22, and at page at pages 3-7 and 32-33 of the instant specification.

The present Amendments to the claims do not introduce new matter into the application as originally filed, and entry thereof is respectfully requested.

Interview with Examiner

Applicants' appreciate the Examiner's courtesy in granting a personal interview with the undersigned and Mr. Shogo Tanaka of Kao Corporation, on December 17, 2002. The examiner interview summary form resulting from the interview is correct with regard to the subject matter that was discussed in the interview.

Rejections Under 35 U.S.C. § 103

Claims 8-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over any one of the following: Yamashita (US 5,549,729), Sampson (US 4,436,547) or Sakagami et al. (US 6,004,906). Reconsideration and withdraw of these rejections is respectfully requested based on the following considerations.

Obviousness Issues

To establish a *prima facie* case of obviousness of a claimed invention under 35 U.S.C. § 103(a), all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

In the instantly amended claims, it is positively recited as follows.

8. A plant-activating agent comprising an effective amount of a substance selected from the group consisting of: ...

...wherein said agent shows not less than a 5% improved reproduction degree of **unicellular green cells** within 15 days after an effective concentration of the plant activator has been given to a plant... (emphasis added)

23. A plant-activating agent comprising an effective amount of a substance selected from the group consisting of:...

*...wherein said agent shows not less than a 5% improved reproduction degree of a **callus of green cells** within 15 days after an effective concentration of the plant activator has been given to a plant... (emphasis added)*

It is submitted that none of the instantly cited references teach, disclose or render obvious the provision of a plant-activating agent, or a method utilizing the same, wherein the plant activating agent possesses reproduction degree properties as set forth in claims 8 and 23 in the case of "unicellular green cells" and "a callus of green cells," respectively.

More precisely, neither Yamashita (US '729) nor Sampson (US '547) nor Sakagami et al. (US '906) teach or suggest the specific growth enhancing characteristics that are associated with the present invention, i.e., improved reproduction degree of not less than 5% in the case of "unicellular green cells" (see claims 8-22) or "a callus of green cells" (see claims 23-37), within 15 days after an effective concentration of the plant-activator has been given to a plant.

Instead, the teachings and disclosures of each of the cited references primarily relate to large-type plants having higher-type plant cells (i.e., multicellular plant cells) and are not at all concerned with determining any cultivating effects on unicellular green cells, including chlorella (see claim 10), or calluses of

green cells, including liverwort (see claim 25). Such limitations are however, positively recited in the present claims.

In support of the above contention, one need only look to Sakagami US '906, Example 4 (column 6, lines 27-46), wherein mesophyll cells of asparagus are prepared, and to Example 1 (column 4, line 56 to column 5, line 45) wherein such cells are used in determining plant cell growth activity. Similarly, in Yamashita US '729 and Sampson US '547, all teachings appear to relate to testing possible agents for properties and effects that are different from and not recited in the plant-activating agents and methods of the present invention. For example, in Sampson US '547 its Experiments 1-5 utilize wheat, barley, rice, and wild oats, which are in no way to be deemed as "unicellular green cells" or "a callus of green cells," as is recited in the pending claims; and Yamashita US '729 at columns 42-45 recites in tabular form a plethora of large-type plants having multicellular cell structures, none of which large-type plants fall render obvious the instantly claimed provisions of:

*...wherein said agent shows not less than a 5% improved reproduction degree of **unicellular green cells** within 15 days after an effective concentration of the plant activator has been given to a plant.... (see Claim 8 emphasis added)*

*...wherein said agent shows not less than a 5% improved reproduction degree of **a callus of green cells** within 15 days after an effective concentration of the plant activator has been given to a plant.... (see Claim 23 emphasis added)*

Moreover, even upon combining the separately cited references'

disclosures, there is provided no teaching, disclosure or motivation to those of ordinary skill in the art that would cause or allow them to arrive at the present invention as claimed, including all its recited limitations.

Absent such motivation in the cited art to arrive at the instant invention as claimed, the USPTO's separate rejections under 35 USC § 103(a) over the Yamashita US '729 , Sampson US '547 and Sakagami et al. US '906 cannot be sustained. This conclusion does not change even if the teachings of such references are considered in combination, since even in combination their provided teachings do not lead those skilled in the art to arrive at the instant invention as claimed.

Therefore, based on the above considerations, it is submitted that the cited Yamashita, Sampson and Sakagami et al. references do not support a *prima facie* case of obviousness. This ground of rejection has been obviated and thus, withdrawal of the outstanding 35 U.S.C. § 103 rejection is respectfully requested.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed

that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to contact John Bailey (Reg. No. 32,881) at the offices of Birch, Stewart, Kolasch & Birch, LLP.

Prompt and favorable consideration of this Response is respectfully requested.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By 

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0425-0835P

Attachment: Version with Markings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend the following claims:

--8. (Amended) A plant-activating agent comprising an effective amount of a substance selected from the group consisting of:

- (23) fatty acids or derivatives thereof,
- (24) organic acids or derivatives thereof,
- (25) lipids or derivatives thereof,
- (26) alcohols or derivatives thereof,
- (27) amines or derivatives thereof,
- (28) amino acids or derivatives thereof,
- (29) proteins or derivatives thereof,
- (30) nucleic acids or derivatives thereof,
- (31) natural extracts,
- (32) fermentation residues, and
- (33) vitamins,

wherein said agent shows not less than a 5% improved reproduction degree of unicellular green cells within 15 days after an effective concentration of the plant activator has been given to a plant, wherein said improved reproduction degree is calculated by the following formula:

Improved reproduction degree in unicellular green cells (%)

$$= [(P_1 - P_0) / P_0] \times 100$$

wherein P_0 represents the reproduction amount of unicellular green cells when the plant-activating agent is not used, and P_1 represents the reproduction amount of unicellular green cells when the plant-activating agent is used.

9. (Amended) The plant-activating agent as claimed in the claim 23, satisfying at least one of the following (a), (b), (c), (d) and (e):

- (a) an improved degree of SPAD chlorophyll value of said plant of not less than two points,
- (b) an increase in the weight of said plant of not less than 10%, wherein the weight of said plant is either a fresh weight or a dry weight,
- (c) an improved degree of leaf-area of said plant of not less than 5%,
- (d) an increase in the concentration amount of ascorbic acid in a blade part of said plant of not less than 5%, and
- (g) a decrease in the concentration amount of nitrate ion in a blade part of said plant of not less than 10%.

10. (Amended) The plant-activating agent of claim 8 or claim 9, wherein said unicellular green cells are chlorella and said

substance has not less than a standard improved reproduction degree of 5% in reproduction of said chlorella.

15. (Amended) [The] A method for assisting growth of a plant comprising the step of:

applying to said plant an effective amount of the plant-activating agent of claim 9.

16. (Amended) [The] A method for assisting growth of a plant comprising the step of:

applying to said plant an effective amount of the plant-activating agent of claim 10.

17. (Amended) [The] A method for assisting growth of a plant comprising the step of:

applying to said plant an effective amount of the plant-activating agent of claim 11.

18. (Amended) [The] A method for assisting growth of a plant comprising the step of:

applying to said plant an effective amount of the plant-activating agent of claim 12.

Claims 23-37 have been added.